

Rec'd PCT/PTO 20 SEP 2004 Page 1 of 7  
10/507232



PCT

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/507,232

DATE: 09/20/2004  
TIME: 13:39:20

Input Set : A:\07917-166US1.txt  
Output Set: N:\CRF4\09172004\J507232.raw

4 <110> APPLICANT: Green, Michael R.  
5 Gollan, Timothy J.  
8 <120> TITLE OF INVENTION: ALTERING VIRAL TROPISM  
11 <130> FILE REFERENCE: 07917-166US1  
C--> 13 <140> CURRENT APPLICATION NUMBER: US/10/507,232  
C--> 13 <141> CURRENT FILING DATE: 2004-09-08  
13 <150> PRIOR APPLICATION NUMBER: PCT/US03/07323  
14 <151> PRIOR FILING DATE: 2003-03-07  
16 <150> PRIOR APPLICATION NUMBER: US 60/362,655  
17 <151> PRIOR FILING DATE: 2002-03-08  
19 <160> NUMBER OF SEQ ID NOS: 26  
21 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
23 <210> SEQ ID NO: 1  
24 <211> LENGTH: 14  
25 <212> TYPE: PRT  
26 <213> ORGANISM: Artificial Sequence  
28 <220> FEATURE:  
29 <223> OTHER INFORMATION: consensus sequence  
31 <400> SEQUENCE: 1  
32 Ile Glu Gly Pro Thr Leu Arg Gln Trp Leu Ala Ala Arg Ala  
33 1 5 10  
35 <210> SEQ ID NO: 2  
36 <211> LENGTH: 5  
37 <212> TYPE: PRT  
38 <213> ORGANISM: Artificial Sequence  
40 <220> FEATURE:  
41 <223> OTHER INFORMATION: binding peptide sequence  
43 <400> SEQUENCE: 2  
44 Ala Pro Asp Thr Pro  
45 1 5  
47 <210> SEQ ID NO: 3  
48 <211> LENGTH: 7  
49 <212> TYPE: PRT  
50 <213> ORGANISM: Artificial Sequence  
52 <220> FEATURE:  
53 <223> OTHER INFORMATION: kidney targeting sequence  
55 <400> SEQUENCE: 3  
56 Cys Leu Pro Val Ala Ser Cys  
57 1 5  
59 <210> SEQ ID NO: 4  
60 <211> LENGTH: 1980  
61 <212> TYPE: DNA  
62 <213> ORGANISM: Murine leukemia virus

ENTERED

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/507,232

DATE: 09/20/2004

TIME: 13:39:20

' Input Set : A:\07917-166US1.txt  
 Output Set: N:\CRF4\09172004\J507232.raw

64 &lt;400&gt; SEQUENCE: 4

65 aattcttctg atgctcagag gggtcagtac tgcttcgccc ggctccagtc ctcatcaagt	60
66 ctataatatac acctgggagg taaccaatgg agatcgggag acggtatggg caacttctgg	120
67 caaccaccct ctgtggacct ggtggcctga ccttacccca gatttatgta tgtagcccc	180
68 ccatggacca tcttattggg ggctagaata tcaatcccc tttcttctc ccccgcccc	240
69 cccttgtgc tcagggggca gcagccagg ctgtccaga gactgcgaag aacctttaac	300
70 ctccctcacc ctcggtgca acactgcctg gaacagactc aagctagacc agacaactca	360
71 taaatcaaat gagggattt atgtttgccc cgggccccac cgccccccgag aatccaagtc	420
72 atgtgggggt ccagactcct tctactgtgc ctattggggc tgtgagacaa ccggtagagc	480
73 ttactggaag ccctcctcat catgggattt catcacagta aacaacaatc tcacctctga	540
74 ccaggctgtc caggtatgca aaagataataa gtggtcaac cccttagtta ttgggtttac	600
75 agacgcggg agacgggta cttcctggac cacaggacat tactggggct tacgtttgta	660
76 tgtctccgga caagatccag ggcttacatt tgggatccga ctcagatacc aaaatctagg	720
77 accccgcgtc ccaataggc caaacccctg tctggcagac caacagccac tctccaagcc	780
78 caaacctgtt aagtgcctt cagtccacca accaccagg gggactcctc tctccctac	840
79 ccaacttcca cccgcgggaa cgaaaaatag gctgctaaac ttagtagacg gagctacca	900
80 agccctcaac ctcaccagtc ctgacaaaac ccaagagtgc tgggtgtgtc tagtagcggg	960
81 acccccctac tacgaagggg ttggcgtct gggtacctac tccaaccata cctctgctcc	1020
82 agccaactgc tccgtggct ccoaacacaaa gttgaccctg tccgaagtga ccggacaggg	1080
83 actctgcata ggagcagtgc cccaaacaca tcagggcccta tggccactca cccagacaag	1140
84 cagtcgaggg tccatttac tagttcccc tacaggtacc atgtgggctt gtgtaccgg	1200
85 gcttacttcca tgcatttcca ccaaccatact gaaccattacc actgattatt gtgttcttgt	1260
86 cgaactctgg ccaagagtca cctatcattc cccagctat gtttacggcc tggtttagag	1320
87 atccaaaccga cccaaacag aaccgggtgc gtttacccctg gccctattat tgggtggact	1380
88 aaccatgggg ggaatttgcgg ctggaatagg aacaggact actgctctaa tggccactca	1440
89 gcaattccag cagcttcaag cccgagtaca ggttacccatc agggaggtt aaaaatcaat	1500
90 ctctaaaccctt gaaaagtctc tcaattccct gtctgaagtt gtcctacaga atcgaagggg	1560
91 ccttagacttg ttatttctaa aagaaggagg gctgtgtgtc gtcctaaag aagaatgttg	1620
92 cttctatgcg gaccacacag gactgttgat agacagcatg gccaaattga gagagaggct	1680
93 taatcagaga cagaaactgt ttggatcaac tcaaggatgg ttggggac tggttaacag	1740
94 atccccctgg ttaccaccc ttagatctac cattatgggaa ccccttattt tactcctaat	1800
95 gattttgtc ttccggaccct gcatttctaa tcgatttagtc caatttggta aagacaggat	1860
96 atcagtggtc caggctctag ttttactca acaatatcac cagctgaagc ctatagagta	1920
97 cgagccatag ataaaataaa agattttatt tagtctccag aaaaaggggg gaatgaaaga	1980

99 &lt;210&gt; SEQ ID NO: 5

100 &lt;211&gt; LENGTH: 7

101 &lt;212&gt; TYPE: PRT

102 &lt;213&gt; ORGANISM: Artificial Sequence

104 &lt;220&gt; FEATURE:

105 &lt;223&gt; OTHER INFORMATION: kidney targeting sequence

107 &lt;400&gt; SEQUENCE: 5

108 Cys Gly Ala Arg Glu Met Cys

109 1 5

111 &lt;210&gt; SEQ ID NO: 6

112 &lt;211&gt; LENGTH: 9

113 &lt;212&gt; TYPE: PRT

114 &lt;213&gt; ORGANISM: Artificial Sequence

116 &lt;220&gt; FEATURE:

117 &lt;223&gt; OTHER INFORMATION: brain targeting sequence

RAW SEQUENCE LISTING DATE: 09/20/2004  
PATENT APPLICATION: US/10/507,232 TIME: 13:39:20

Input Set : A:\07917-166US1.txt  
Output Set: N:\CRF4\09172004\J507232.raw

119 <400> SEQUENCE: 6  
120 Cys Leu Ser Ser Arg Leu Asp Ala Cys  
121 1 5  
123 <210> SEQ ID NO: 7  
124 <211> LENGTH: 21  
125 <212> TYPE: PRT  
126 <213> ORGANISM: Artificial Sequence  
128 <220> FEATURE:  
129 <223> OTHER INFORMATION: brain targeting sequence  
131 <400> SEQUENCE: 7  
132 Trp Arg Cys Val Leu Arg Glu Gly Pro Ala Gly Gly Cys Ala Trp Phe  
133 1 5 10 15  
134 Asn Arg His Arg Leu  
135 20  
137 <210> SEQ ID NO: 8  
138 <211> LENGTH: 13  
139 <212> TYPE: PRT  
140 <213> ORGANISM: Artificial Sequence  
142 <220> FEATURE:  
143 <223> OTHER INFORMATION: Synthetically generated peptide  
145 <400> SEQUENCE: 8  
146 Cys Ala Ala Ala Gly Arg Gly Asp Ser Pro Thr Arg Cys  
147 1 5 10  
149 <210> SEQ ID NO: 9  
150 <211> LENGTH: 39  
151 <212> TYPE: DNA  
152 <213> ORGANISM: Artificial Sequence  
154 <220> FEATURE:  
155 <223> OTHER INFORMATION: Synthetically generated oligonucleotide  
157 <400> SEQUENCE: 9  
158 tgcgcggccg ctggccgtgg cgattctccc acgcgttgt 39  
160 <210> SEQ ID NO: 10  
161 <211> LENGTH: 39  
162 <212> TYPE: DNA  
163 <213> ORGANISM: Artificial Sequence  
165 <220> FEATURE:  
166 <223> OTHER INFORMATION: Synthetically generated oligonucleotide  
168 <400> SEQUENCE: 10  
169 aacaacgcgtg ggagaatcgc cacggccagc ggccgcgca 39  
171 <210> SEQ ID NO: 11  
172 <211> LENGTH: 21  
173 <212> TYPE: PRT  
174 <213> ORGANISM: Artificial Sequence  
176 <220> FEATURE:  
177 <223> OTHER INFORMATION: Synthetically generated peptide  
179 <400> SEQUENCE: 11  
180 Cys Ala Ala Ala Gln Gly Ala Thr Phe Ala Leu Arg Gly Asp Asn Pro  
181 1 5 10 15  
182 Gln Gly Thr Arg Cys

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/507,232

DATE: 09/20/2004

TIME: 13:39:20

Input Set : A:\07917-166US1.txt

Output Set: N:\CRF4\09172004\J507232.raw

183 20  
185 <210> SEQ ID NO: 12  
186 <211> LENGTH: 50  
187 <212> TYPE: DNA  
188 <213> ORGANISM: Artificial Sequence  
190 <220> FEATURE:  
191 <223> OTHER INFORMATION: Synthetically generated oligonucleotide  
193 <400> SEQUENCE: 12  
194 ggccgctcaa ggcgaacgt tcgcgctca agggataat ccacaggaa 50  
196 <210> SEQ ID NO: 13  
197 <211> LENGTH: 50  
198 <212> TYPE: DNA  
199 <213> ORGANISM: Artificial Sequence  
201 <220> FEATURE:  
202 <223> OTHER INFORMATION: Synthetically generated oligonucleotide  
204 <400> SEQUENCE: 13  
205 cgcgtccccct gtggattatc gcctctgagc gcgaacgttg cgccttgagc 50  
207 <210> SEQ ID NO: 14  
208 <211> LENGTH: 6  
209 <212> TYPE: PRT  
210 <213> ORGANISM: Artificial Sequence  
212 <220> FEATURE:  
213 <223> OTHER INFORMATION: Synthetically generated peptide  
215 <400> SEQUENCE: 14  
216 Gly Arg Gly Asp Ser Pro  
217 1 5  
219 <210> SEQ ID NO: 15  
220 <211> LENGTH: 14  
221 <212> TYPE: PRT  
222 <213> ORGANISM: Artificial Sequence  
224 <220> FEATURE:  
225 <223> OTHER INFORMATION: Synthetically generated peptide  
227 <400> SEQUENCE: 15  
228 Gln Gly Ala Thr Phe Ala Leu Arg Gly Asp Asn Pro Gln Gly  
229 1 5 10  
231 <210> SEQ ID NO: 16  
232 <211> LENGTH: 22  
233 <212> TYPE: DNA  
234 <213> ORGANISM: Artificial Sequence  
236 <220> FEATURE:  
237 <223> OTHER INFORMATION: Synthetically generated oligonucleotide  
239 <400> SEQUENCE: 16  
240 ttttgtcaag accgacacctgt cc 22  
242 <210> SEQ ID NO: 17  
243 <211> LENGTH: 22  
244 <212> TYPE: DNA  
245 <213> ORGANISM: Artificial Sequence  
247 <220> FEATURE:  
248 <223> OTHER INFORMATION: Synthetically generated oligonucleotide

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/507,232

DATE: 09/20/2004

TIME: 13:39:20

Input Set : A:\07917-166US1.txt

Output Set: N:\CRF4\09172004\J507232.raw

250 <400> SEQUENCE: 17 22  
 251 cgggagcggc gataccgtaa ag  
 253 <210> SEQ ID NO: 18  
 254 <211> LENGTH: 21  
 255 <212> TYPE: PRT  
 256 <213> ORGANISM: Artificial Sequence  
 258 <220> FEATURE:  
 259 <223> OTHER INFORMATION: Synthetically generated peptide  
 261 <400> SEQUENCE: 18  
 262 Cys Ala Ala Ala Glu Gln Arg Leu Gly Asn Gln Trp Ala Val Gly His  
 263 1 5 10 15  
 264 Leu Met Thr Arg Cys  
 265 20  
 267 <210> SEQ ID NO: 19  
 268 <211> LENGTH: 47  
 269 <212> TYPE: DNA  
 270 <213> ORGANISM: Artificial Sequence  
 272 <220> FEATURE:  
 273 <223> OTHER INFORMATION: Synthetically generated oligonucleotide  
 275 <400> SEQUENCE: 19 47  
 276 ggccgagcac cgccctggca accagtgggc cgtcgccac ctgatga  
 278 <210> SEQ ID NO: 20  
 279 <211> LENGTH: 47  
 280 <212> TYPE: DNA  
 281 <213> ORGANISM: Artificial Sequence  
 283 <220> FEATURE:  
 284 <223> OTHER INFORMATION: Synthetically generated oligonucleotide  
 286 <400> SEQUENCE: 20  
 287 cgcgtcatca ggtggccgac ggcccactgg ttgcccaaggc gctgctc 47  
 289 <210> SEQ ID NO: 21  
 290 <211> LENGTH: 71  
 291 <212> TYPE: DNA  
 292 <213> ORGANISM: Artificial Sequence  
 294 <220> FEATURE:  
 295 <223> OTHER INFORMATION: Synthetically generated oligonucleotide  
 297 <400> SEQUENCE: 21  
 298 ggccgcttca cactgtaa agtgcgcaga gaaggaaaag acgttctgct tcaacggcgt 60  
 299 gagtgttaca g 71  
 301 <210> SEQ ID NO: 22  
 302 <211> LENGTH: 84  
 303 <212> TYPE: DNA  
 304 <213> ORGANISM: Artificial Sequence  
 306 <220> FEATURE:  
 307 <223> OTHER INFORMATION: Synthetically generated oligonucleotide  
 309 <400> SEQUENCE: 22  
 310 gccgttaggtc ttaaccctgt aacactcacc gccgttgacg cagaacgtct tttcattctc 60  
 311 tgcgcactt acaagggtgtg aagc 84  
 313 <210> SEQ ID NO: 23  
 314 <211> LENGTH: 83

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/507,232

DATE: 09/20/2004

TIME: 13:39:21

Input Set : A:\07917-166US1.txt

Output Set: N:\CRF4\09172004\J507232.raw

L:13 M:270 C: Current Application Number differs, Replaced Current Application No

L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date